

SEQUENCE LISTING

<110> Peck, Ammon B.
Sidhu, Harmeet

<120> Materials and Methods for Detection of *Oxalobacter formigenes*

<130> UF-145C4D2

<140> 09/829,094

<141> 2001-04-09

<150> 08/936,094

<151> 1997-09-23

<150> 08/883,610

<151> 1997-06-26

<150> 08/717,587

<151> 1996-09-27

<150> 08/493,197

<151> 1995-06-20

<150> 08/262,424

<151> 1994-06-20

<160> 19

<170> PatentIn version 3.0

<210> 1

<211> 1577

<212> DNA

<213> *Oxalobacter formigenes*

<400> 1

```

aagcttgctt cattttgaga tgttatgcga agtgtagca acccaagta gtacccttca      60
gccctttggg cgaagttttt ctttcttggc agttcctttc ggggaaacag cacagagaat    120
aaaaaccaa agttgtacca acgacaagga aatgagaaat tatgactaaa ccattagatg      180
gaattaatgt gcttgacttt acccacgtcc aggcagggtcc tgccgtgtaca cagatgatgg    240
gtttcttggg cgcaaacgtc atcaagattg aaagacgtgg ttccggagat atgactcgtg     300
gatggctgca ggacaaacca aatggttgatt ccctgtattt cacgatgttc aactgtaaca     360
aacgttcgat tgaactggac atgaaaaccc cggaaggcaa agagcttctg gaacagatga     420
tcaagaaagc cgacgtcatg gtcgaaaact tcggaccagg cgcactggac cgtatgggct     480

```

```

ttacttggga atacattcag gaactgaatc cacgcgtcat tctggcttcc gttaaaggct 540
atgcagaagg ccacgccaac gaacacctga aagtttatga aaacgttgca cagtgttccg 600
gcggtgctgc agtaccacc gggttctggg atggctctcc aaccgtttcc ggcgctgctc 660
tgggtgactc caactccggt atgcacctga tgatcggtat tctggccgct ctggaaatgc 720
gtcacaaaac cggccgtggt cagaaagttg ccgtcgctat gcaggacgct gttctgaatc 780
tggttcgat caaactgcgt gaccagcaac gtctggaaag aaccggcatt ctggctgaat 840
acccacaggc tcagcctaac tttgccttcg acagagacgg taaccactg tccttcgaca 900
acatcacttc cgttcacgt ggtggtaacg caggtggcgg cgccagcca ggcggatgc 960
tgaaatgtaa aggttgggaa accgatgcgg actcctacgt ttacttcacc atcgctgcaa 1020
acatgtggcc acagatctgc gacatgatcg acaagccaga atggaaagac gaccagcct 1080
acaacacatt cgaaggtcgt gttgacaagc tgatggacat cttctccttc atcgaaacca 1140
agttcgctga caaggacaaa ttcgaagtta ccgaatgggc tgcccagtac ggcattcctt 1200
gcggtccggt catgtccatg aaagaactgg ctacgatcc ttccctgcag aaagttggta 1260
cgtcgttga agttgtcgac gaaattcgtg gtaaccacct gaccgttggc gcaccgttca 1320
aattctccgg attccagccg gaaattaccc gtgctcogct gttgggcgaa cataccgacg 1380
aagttctgaa agaactgggt cttgacgatg ccaagatcaa ggaactgcat gcaaacagg 1440
tagtttgatc cgtcagactt tctgggcaaa acggcactct ccggagtgcc gttttttgtc 1500
acacgaaacc taatcaaaca agcacgtgca atgattccac atcattgcgg ccacattcat 1560
ccttcgggtc attactg 1577

```

<210> 2

<211> 428

<212> PRT

<213> Oxalobacter formigenes

<400> 2

```

Met Thr Lys Pro Leu Asp Gly Ile Asn Val Leu Asp Phe Thr His Val
1           5           10           15
Gln Ala Gly Pro Ala Cys Thr Gln Met Met Gly Phe Leu Gly Ala Asn
20           25           30
Val Ile Lys Ile Glu Arg Arg Gly Ser Gly Asn Met Thr Arg Gly Trp
35           40           45

```

Leu Gln Asp Lys Pro Asn Val Asp Ser Leu Tyr Phe Thr Met Phe Asn
 50 55 60
 Cys Asn Lys Arg Ser Ile Glu Leu Asp Met Lys Thr Pro Glu Gly Lys
 65 70 75 80
 Glu Leu Leu Glu Gln Met Ile Lys Lys Ala Asp Val Met Val Glu Asn
 85 90 95
 Phe Gly Pro Gly Ala Leu Asp Arg Met Gly Phe Thr Trp Glu Tyr Ile
 100 105 110
 Gln Glu Leu Asn Pro Arg Val Ile Leu Ala Ser Val Lys Gly Tyr Ala
 115 120 125
 Glu Gly His Ala Asn Glu His Leu Lys Val Tyr Glu Asn Val Ala Gln
 130 135 140
 Cys Ser Gly Gly Ala Ala Ala Thr Thr Gly Phe Trp Asp Gly Pro Pro
 145 150 155 160
 Thr Val Ser Gly Ala Ala Leu Gly Asp Ser Asn Ser Gly Met His Leu
 165 170 175
 Met Ile Gly Ile Leu Ala Ala Leu Glu Met Arg His Lys Thr Gly Arg
 180 185 190
 Gly Gln Lys Val Ala Val Ala Met Gln Asp Ala Val Leu Asn Leu Val
 195 200 205
 Arg Ile Lys Leu Arg Asp Gln Gln Arg Leu Glu Arg Thr Gly Ile Leu
 210 215 220
 Ala Glu Tyr Pro Gln Ala Gln Pro Asn Phe Ala Phe Asp Arg Asp Gly
 225 230 235 240
 Asn Pro Leu Ser Phe Asn Asn Ile Thr Ser Val Pro Arg Gly Gly Asn
 245 250 255
 Ala Gly Gly Gly Gly Glu Pro Gly Trp Met Leu Lys Cys Lys Gly Trp
 260 265 270
 Glu Thr Asp Ala Asp Ser Tyr Val Tyr Phe Thr Ile Ala Ala Asn Met
 275 280 285
 Trp Pro Gln Ile Cys Asn Met Ile Asp Lys Pro Glu Trp Lys Asp Asp
 290 295 300
 Pro Ala Tyr Asn Thr Phe Glu Gly Arg Val Asp Lys Leu Met Asp Ile
 305 310 315 320
 Phe Ser Phe Ile Glu Thr Lys Phe Ala Asp Lys Asp Lys Phe Glu Val
 325 330 335
 Thr Glu Trp Ala Ala Gln Tyr Gly Ile Pro Cys Gly Pro Val Met Ser

340	345	350
Met Lys Glu Leu Ala His Asp Pro Ser Leu Gln Lys Val Gly Thr Val		
355	360	365
Val Glu Val Val Asp Glu Ile Arg Gly Asn His Leu Thr Val Gly Ala		
370	375	380
Pro Phe Lys Phe Ser Gly Phe Gln Pro Glu Ile Thr Arg Ala Pro Leu		
385	390	395
Leu Gly Glu His Thr Asp Glu Val Leu Lys Glu Leu Gly Leu Asp Asp		
405	410	415
Ala Lys Ile Lys Glu Leu His Ala Lys Gln Val Val		
420	425	

<210> 3

<211> 2088

<212> DNA

<213> Oxalobacter formigenes

<400> 3

```

atttgtttaa attgacctga atcaatattg ccggattgat ctaggtcaat gaatgcaaat      60
tgacttatgt caatggtgcc aaattgacct aggtcaacgg gattttttaa gggatgacgg      120
catactcgga attgacgtta aacaacgttt atcaaaacca accaaagaaa ggtattactc      180
atgagtaacg acgacaatgt agagttgact gatggctttc atgttttgat cgatgccctg      240
aaaatgaatg acatcgatac catgtatggt gttgtcggca ttcctatcac gaacctggct      300
cgtatgtggc aagatgacgg tcagcgtttt tacagcttcc gtcacgaaca acacgcaggt      360
tatgcagctt ctatcgccgg ttacatcgaa ggaaaacctg gcgtttgctt gaccgtttcc      420
gccctggct tcctgaacgg cgtgacttcc ctggctcatg caaccaccaa ctgcttccca      480
atgatcctgt tgagcgggtc cagtgaacgt gaaatcgctg atttccaaga cggcgattac      540
gaagaaatgg atcagatgaa tgttgacagt ccacactgca aagcttcttt ccgtatcaac      600
agcatcaaag acattccaat cggtatcgct cgtgcagttc gcaccgctgt atccggacgt      660
ccaggtggtg ttacggttga cttcccagca aaactgttcg gtcagaccat ttctgtagaa      720
gaagctaaca aactgctctt caaaccaatc gatccagctc cggcacagat tcttgctgaa      780
gacgctatcg ctgcgctgc tgacctgatc aagaacgcca aacgtccagt tatcatgctg      840
ggtaaaggcg ctgcatacgc acaatgacgc gacgaaatcc gcgcactggt tgaagaaacc      900

```

```

ggcatcccat tcttgccaat gggatatggct aaaggcctgc tgcctgacaa ccatccacaa   960
tccgctgctg caaccctgctg tttcgcaactg gcacagtgtg acgtttgctg actgatcggc  1020
gctcgtctga actggctgat gcagcacggt aaaggcaaaa cctggggcga cgaactgaag  1080
aaatacgttc agatcgacat ccaggctaac gaaatggaca gcaaccagcc tatcgtgca   1140
ccagttgttg gtgacatcaa gtccgccggt tccctgctcc gcaaagcact gaaaggcgct  1200
ccaaaagctg acgctgaatg gaccggcgct ctgaaagcca aagttgacgg caacaaagcc  1260
aaactggctg gcaagatgac tgccgaaacc ccatccggaa tgatgaacta ctccaattcc  1320
ctgggcgttg ttcgtgactt catgctggca aatccggata tttccctggt taacgaaggc  1380
gctaattgac tcgacaacac tcgtatgatt gttgacatgc tgaaaccacg caaacgtctt  1440
gactccggtg cctgggggtg tatgggtatt ggtatgggct actgcgttgc tgcagctgct  1500
gttaccggca aaccgggttat cgctgttgaa ggcgatagcg cattcggttt ctccggtatg  1560
gaactggaaa ccatctgccg ttacaacctg ccagttaccg ttatcatcat gaacaatggt  1620
ggatatcata aaggtaacga agcagatcca caaccaggcg ttatctcctg tacccgtctg  1680
acccgtggtc gttacgacat gatgatggaa gcatttggcg gtaaaggta tgttgccaat  1740
actccagcag aactgaaagc tgctctggaa gaagctggtg cttccggcaa accatgcctg  1800
atcaacgcga tgategatcc agacgctggt gtogaatctg gccgatcaa gagcctgaac  1860
gttgtaagta aagttggcaa gaaataatta gcccaacttt gatgaccggt tacgaccggt  1920
cacataaagt gttcgaatgc cttcaagtt tacttgaagg gcattttttt accttgcatg  1980
ttataaacag gaaaaattgt attcagagcg gaaaagcaga tttaagccac gagaaacatt  2040
cttttttatt gaaaattgcc ataaacacat ttttaaagct ggcttttt   2088

```

<210> 4

<211> 568

<212> PRT

<213> Oxalobacter formigenes

<400> 4

```

Met Ser Asn Asp Asp Asn Val Glu Leu Thr Asp Gly Phe His Val Leu
1           5           10           15

Ile Asp Ala Leu Lys Met Asn Asp Ile Asp Thr Met Tyr Gly Val Val
          20           25           30

Gly Ile Pro Ile Thr Asn Leu Ala Arg Met Trp Gln Asp Asp Gly Gln

```

35	40	45
Arg Phe Tyr Ser Phe Arg His Glu Gln His Ala Gly Tyr Ala Ala Ser 50 55 60		
Ile Ala Gly Tyr Ile Glu Gly Lys Pro Gly Val Cys Leu Thr Val Ser 65 70 75 80		
Ala Pro Gly Phe Leu Asn Gly Val Thr Ser Leu Ala His Ala Thr Thr 85 90 95		
Asn Cys Phe Pro Met Ile Leu Leu Ser Gly Ser Ser Glu Arg Glu Ile 100 105 110		
Val Asp Leu Gln Gln Gly Asp Tyr Glu Glu Met Asp Gln Met Asn Val 115 120 125		
Ala Arg Pro His Cys Lys Ala Ser Phe Arg Ile Asn Ser Ile Lys Asp 130 135 140		
Ile Pro Ile Gly Ile Ala Arg Ala Val Arg Thr Ala Val Ser Gly Arg 145 150 155 160		
Pro Gly Gly Val Tyr Val Asp Leu Pro Ala Lys Leu Phe Gly Gln Thr 165 170 175		
Ile Ser Val Glu Glu Ala Asn Lys Leu Leu Phe Lys Pro Ile Asp Pro 180 185 190		
Ala Pro Ala Gln Ile Pro Ala Glu Asp Ala Ile Ala Arg Ala Ala Asp 195 200 205		
Leu Ile Lys Asn Ala Lys Arg Pro Val Ile Met Leu Gly Lys Gly Ala 210 215 220		
Ala Tyr Ala Gln Cys Asp Asp Glu Ile Arg Ala Leu Val Glu Glu Thr 225 230 235 240		
Gly Ile Pro Phe Leu Pro Met Gly Met Ala Lys Gly Leu Leu Pro Asp 245 250 255		
Asn His Pro Gln Ser Ala Ala Ala Thr Arg Ala Phe Ala Leu Ala Gln 260 265 270		
Cys Asp Val Cys Val Leu Ile Gly Ala Arg Leu Asn Trp Leu Met Gln 275 280 285		
His Gly Lys Gly Lys Thr Trp Gly Asp Glu Leu Lys Lys Tyr Val Gln 290 295 300		
Ile Asp Ile Gln Ala Asn Glu Met Asp Ser Asn Gln Pro Ile Ala Ala 305 310 315 320		
Pro Val Val Gly Asp Ile Lys Ser Ala Val Ser Leu Leu Arg Lys Ala 325 330 335		

Leu Lys Gly Ala Pro Lys Ala Asp Ala Glu Trp Thr Gly Ala Leu Lys
 340 345 350
 Ala Lys Val Asp Gly Asn Lys Ala Lys Leu Ala Gly Lys Met Thr Ala
 355 360 365
 Glu Thr Pro Ser Gly Met Met Asn Tyr Ser Asn Ser Leu Gly Val Val
 370 375 380
 Arg Asp Phe Met Leu Ala Asn Pro Asp Ile Ser Leu Val Asn Glu Gly
 385 390 395 400
 Ala Asn Ala Leu Asp Asn Thr Arg Met Ile Val Asp Met Leu Lys Pro
 405 410 415
 Arg Lys Arg Leu Asp Ser Gly Thr Trp Gly Val Met Gly Ile Gly Met
 420 425 430
 Gly Tyr Cys Val Ala Ala Ala Val Thr Gly Lys Pro Val Ile Ala
 435 440 445
 Val Glu Gly Asp Ser Ala Phe Gly Phe Ser Gly Met Glu Leu Glu Thr
 450 455 460
 Ile Cys Arg Tyr Asn Leu Pro Val Thr Val Ile Ile Met Asn Asn Gly
 465 470 475 480
 Gly Ile Tyr Lys Gly Asn Glu Ala Asp Pro Gln Pro Gly Val Ile Ser
 485 490 495
 Cys Thr Arg Leu Thr Arg Gly Arg Tyr Asp Met Met Met Glu Ala Phe
 500 505 510
 Gly Gly Lys Gly Tyr Val Ala Asn Thr Pro Ala Glu Leu Lys Ala Ala
 515 520 525
 Leu Glu Glu Ala Val Ala Ser Gly Lys Pro Cys Leu Ile Asn Ala Met
 530 535 540
 Ile Asp Pro Asp Ala Gly Val Gly Ser Gly Arg Ile Lys Ser Leu Asn
 545 550 555 560
 Val Val Ser Lys Val Gly Lys Lys
 565

<210> 5
 <211> 17
 <212> DNA
 <213> Oxalobacter formigenes

<400> 5

gagcgatacc gattgga

17

<210> 6
<211> 17
<212> DNA
<213> Oxalobacter formigenes

<400> 6

gcacaatgcg acgacga

17

<210> 7
<211> 17
<212> DNA
<213> Oxalobacter formigenes

<400> 7

caggttatgc agcttct

17

<210> 8
<211> 17
<212> DNA
<213> Oxalobacter formigenes

<400> 8

ggatggttgt caggcag

17

<210> 9
<211> 17
<212> DNA
<213> Oxalobacter formigenes

<400> 9

atactcggaa ttgacgt

17

<210> 10
<211> 23
<212> DNA
<213> Oxalobacter formigenes

<400> 10

ttcatgtcca gttcaatcga acg

23

<210> 11
<211> 17
<212> DNA
<213> Oxalobacter formigenes

<400> 11

gtagttcatc attccgg

17

<210> 12

<211> 17

<212> DNA

<213> Oxalobacter formigenes

<400> 12

aatgtagagt tgactga

17

<210> 13

<211> 17

<212> DNA

<213> Oxalobacter formigenes

<400> 13

ttgatgctgt tgatacg .

17

<210> 14

<211> 31

<212> DNA

<213> Oxalobacter formigenes

<400> 14

gacaatgtag agttgactga tggctttcat g

31

<210> 15

<211> 18

<212> DNA

<213> Oxalobacter formigenes

<400> 15

caggatggtc agaagttc

18

<210> 16

<211> 17

<212> DNA

<213> Oxalobacter formigenes

<400> 16

ccggttacat cgaagga

17

<210> 17
<211> 17
<212> DNA
<213> Oxalobacter formigenes

<400> 17

tccaatcggt atcgctc

17

<210> 18
<211> 21
<212> DNA
<213> Oxalobacter formigenes

<400> 18

tttacctcacg tccaggcagg t

21

<210> 19
<211> 23
<212> DNA
<213> Oxalobacter formigenes

<400> 19

gcaagctaac ttgacctgta ctt

23